

TO: ALL ISZAPT DISTRIBUTOR AND DEALER SERVICE PERSONNEL
SUBJECT: P20C9 ACCOMPANIED BY WHITE CRYSTALLINE POWDER ON THE NOX SENSOR

The purpose of this bulletin is to address a potential concern with the Selective Catalyst Reduction (SCR) emissions control system used on the 4JJ1XAGD01 engine. Under certain conditions, the dosing control system may inject more Diesel Exhaust Fluid (DEF) than required by the catalyst. Excess DEF can crystalize into a white powdery substance and prevent normal SCR operation.

Indications of this malfunction include the following:

- White crystals or powder appearing to be dripping from the front of the exhaust system
- Diagnostic Trouble Code (DTC) P20C9 code accompanied by white powder on the NOx sensor

DTC P20C9 is set in the Engine Control Unit (ECU) when an SCR malfunction is detected. When associated with the symptoms above, it is likely that DTC(s) P2206 or P2207 will be set in the Dosing Control Unit (DCU). Up until the point of DTC triggering, automatic purging is still performed and no difference in operation may be noticed other than unusually high consumption of DEF. If the condition described is suspected, please download the Data Recording Module (DRM) history file as part of best practice documentation.

Remove and inspect the NOx sensor. If excessive white powder is noticed on the NOx sensor, it should be replaced. Remove the Dosing Module (DM or DEF Injector). Using an endoscope through the dosing module port, inspect the inside of the SCR catalyst mixing chamber for excessive white powder build up. As part of best practice documentation, take a photo of the NOx sensor, Dosing Module, and inside of catalyst mixing chamber. Next, DEF concentration and quality, Dosing Module function, and DEF level should be tested for normal function. Repair as needed.

Once repaired and reassembled, clear DTCs in the DCU then ECU. With E-IDSS connected, start the engine and run to proper temperature for a purge to be completed (158° F). Use the E-IDSS to initiate a forced purge. Once the "DPD Mode" parameter enters 270, the purge will begin and take 13 minutes to complete. Upon completion of this purge, please allow the unit to return to mode 30. Check for DTCs. Repeat these steps for a total of 8 purge cycles. Once all 8 purges have been completed, inspect the NOx sensor and Dosing Module port for white crystals/powder. Upon completion, the unit is back in working condition and can be returned to the customer. If this is a repeat concern, please contact your Isuzu distributor or the Isuzu Technical Assistance Center (ITAC) Hotline.

Best regards,

Kelby McKoin & Tomas G. Gonzalez

Service Engineers